

Appointment

From: AdlerReed, Deborah [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EDB5530F8530412ABD2495C32AD2E0CD-ADLERREED, DEBORAH]
Sent: 2/5/2015 5:00:00 PM
To: AdlerReed, Deborah [adlerreed.deborah@epa.gov]; Weihrauch, John [Weihrauch.John@epa.gov]; Jason Wilcox [Wilcox.Jason@epa.gov]; Hershfield, Michael [Hershfield.Michael@epa.gov]
Subject: Renewable Electricity
Attachments: Renewable Electricity.pptx
Location: Call

Start: 2/12/2015 6:00:00 PM
End: 2/12/2015 6:30:00 PM
Show Time As: Busy



Renewable
Electricity.pptx

Draft outline for discussion purposes.
Deb

Message

From: Patterson, Susan [Patterson.Susan@epa.gov]
Sent: 9/24/2014 4:41:02 PM
To: AdlerReed, Deborah [adlerreed.deborah@epa.gov]
Subject: RE: FOIA Response Needs Approval
Attachments: FOIA Response EPA-HQ-2014-005535 7_9_14.docx

Here ya go.

Sue Patterson
 OTAQ, Compliance Division - Ann Arbor
 Supporting the US EPA through a Cooperative Agreement with SSAI
 734-214-4379

From: AdlerReed, Deborah
Sent: Wednesday, September 24, 2014 12:21 PM
To: Bunker, Byron
Cc: Patterson, Susan
Subject: RE: FOIA Response Needs Approval

Great, thanks!

Sue – can you please prepare the letter for Byron’s signature, and then send the signed copy to Tanya Meekins?

She already has the supporting documents.

Thanks,

Deb

From: Bunker, Byron
Sent: Wednesday, September 24, 2014 12:17 PM
To: AdlerReed, Deborah
Cc: Patterson, Susan
Subject: RE: FOIA Response Needs Approval

Thanks Deb.

This is good to go.

Byron

Byron Bunker
 Director Compliance Division
 Office of Transportation and Air Quality
 Environmental Protection Agency
 2000 Traverwood Drive
 Ann Arbor, MI 48105
Bunker.Byron@epa.gov
 Phone: (734) 214-4155
 Mobile: (734) 353-9623

From: AdlerReed, Deborah
Sent: Wednesday, September 24, 2014 11:50 AM
To: Bunker, Byron
Cc: Patterson, Susan
Subject: FOIA Response Needs Approval

Hi Byron,

Attached is a FOIA request related to renewable electricity and pathways II. It was initially handled by TCD, but since his questions were mostly re: compliance issues, the response was forwarded to us, for your signature.

Deliberative Process / Ex. 5

Please let me know if you have any questions.

Deliberative Process / Ex. 5

Deliberative Process / Ex. 5 Tanya Meekins will take care of sending the response. We just need your approval and signature on the response.

Thanks,
Deb

Message

From: AdlerReed, Deborah [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EDB5530F8530412ABD2495C32AD2E0CD-ADLERREED, DEBORAH]
Sent: 3/10/2015 4:59:22 PM
To: Weihrauch, John [Weihrauch.John@epa.gov]
Subject: Renewable Electricy RIN summary
Attachments: Current Renewable Electricity Proposals.docx

Hi John,

Deliberative Process / Ex. 5

Thanks,
Deb



GENERATECAPITAL

Generate Capital's Comments to Proposed REGS Rule

1. The Pathway and a Hybrid Structure

EPA's stated goal is to implement a structure for generating e-RINs that maximizes the environmental impact of the renewable electricity pathway. To do so, EPA must move forward with a structure that would generate the most e-RINs and therefore create the most value to be passed on to the owners of electric vehicles, developers of EV infrastructure, and producers of renewable, biogas electricity. In Generate Capital's view, a hybrid approach that uses consumption data from EV manufacturers, manufacturers of public charging stations, and utilities that have deployed charging stations would accomplish all of EPA's goals for the program, particularly if those participants are allowed to designate third-party aggregators to generate RINs.

Such a structure would require a solution to "double counting" like the proposals made by Bridge to Renewables. A hybrid structure that solves double counting would allow Generate Capital and its peers across the EV and biogas industries to participate directly in an equitable and comprehensive program.

2. Third Party Aggregators

Generate Capital agrees with EPA that third parties could "serve an important role as aggregators of required data and agents or intermediaries for RIN generation," and has been working with one, Bridge to Renewables, to demonstrate the viability of this structure. Generate Capital believes that a third party would provide a way for smaller IPPs, like Generate Capital's partners who run anaerobic digestion facilities, to participate in the renewable electricity pathway. EPA admits in its proposed REGS Rule, for example, that "a single vehicle manufacturer would likely need to rely on a sizable number of contracts with IPPs (independent power producer), given the small scale of many IPPs that generate electricity from biogas and the necessity for the IPPs to be able to supply electricity on to the electrical grid from which the manufacturer's EVs draw electricity." Without third party aggregators, Generate Capital believes the market would be constrained because it is unlikely the owners of the electricity consumption data necessary to generate e-RINs (vehicle manufacturers in this example) would contract with smaller IPPs, thereby restricting participation to only the largest power providers.

A company like Bridge to Renewables would ensure that RINs are distributed to a diverse mix of small and large IPPs.

3. Equivalence Value

Generate Capital believes that EPA should update the equivalence value assigned to renewable electricity to account for the efficiency advantages of electric drivetrains and their ability to displace fossil-based gasoline and diesel. By doing so, EPA would provide additional incentive to capture and use methane to generate electricity. The current equivalence value of the RFS



GENERATECAPITAL

puts renewable biogas-electricity at a significant disadvantage relative to liquid biofuels, and this disadvantage is inconsistent with EPA's goal of accelerating the growth of biogas-based electricity generation.

4. Environmental Attributes, RINs

In its 2014 rulemaking, EPA specified that the Environmental Attributes associated with renewable biogas electricity generation are separate from e-RINs. EPA should reaffirm this position, allowing IPPs to generate and contract for both RECs and RINs and amplifying the intended benefits of each program.



Bridge To Renewables, Benefit LLC
655 15th Street NW
Washington, D.C. 20005

December 16, 2016

Environmental Protection Agency

Attn: Julia McAllister

2000 Traverwood Drive Ann Harbor, MI 48105.

RE: Docket ID No. EPA-HQ-OAR-2016-0041-0002

Thank you for the opportunity to comment on EPA's proposed Renewables Enhancement and Growth Support Rule.¹

Since the inception of the Renewable Fuel Standard ("RFS") program, the Environmental Protection Agency's ("EPA") goal has been to grow renewable fuel industries for the purpose of reducing the transportation sector's dependence on fossil fuels:

Congress charged EPA with implementing a program whose explicit goal is increased renewable fuel use over time, and EPA, in developing an implementation framework, sought to achieve this goal in a fashion that maximizes flexibility and the power of the marketplace, while at the same time recognizing the complex and disaggregated structure of the fuel production and distribution systems.

In establishing a compliance approach based on RINs, EPA sought to encourage efficient, market-based solutions to the challenges associated with increasing the production, distribution, and consumption of renewable fuels².

Bridge To Renewables, Benefit LLC ("BTR") believes the solutions proposed herein, and in its application to EPA, significantly advance that goal by introducing market-based cooperation between a variety of stakeholders in the electric vehicle ("EV") and biogas electricity industries. By successfully implementing the renewable electricity pathway, EPA will have created a program that could directly address the two critical barriers to increasing EV adoption: the cost of EVs and proliferation of infrastructure.

Bridge to Renewables develops and implements solutions that advance the electrification of transportation and the production of renewable electricity. We have worked with industry partners - large and small - to leverage the RFS to those ends for over two years. BTR, in conjunction with its partners, submitted comments on this pathway in July and October of 2015. BTR has enjoyed facilitating cooperation from different parts of the EV and biogas industries and looks forward to continuing to work with its partners and with EPA to ensure the renewable electricity pathway is a success.

Should you have any questions, please contact me at 202-810-4246 or jim.lemon@btr.energy.

Sincerely,

Jim Lemon
Co-founder, CEO
Bridge To Renewables, Benefit LLC

¹ Renewables Enhancement and Growth Support Rule, (proposed Nov 16, 2016)

² Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, (proposed June 10, 2015)



December 15, 2016

The Honorable Gina McCarthy
Administrator, Environmental Protection Agency
Air and Radiation Docket and Information Center
1200 Pennsylvania Avenue NW
Washington, DC 20460

Subject: **Docket ID No.** EPA-HQ- OAR-2016-0041; **RIN:** 2060-AS66

Dear Administrator McCarthy:

BYD America (BYD) submits these comments in response to the Environmental Protection Agency's (EPA) Proposed Renewables Enhancement and Growth Support ("REGS") Rule for the Renewable Fuel Standard ("RFS") program. Specifically, BYD supports implementation of the Renewable Electricity Pathway.

BYD manufactures and sells electric buses and trucks in the US. BYD is committed to the US market and views the transition from a petroleum-based transportation sector to a renewable, electric sector as an environmental imperative. If implemented correctly, the electricity pathway under consideration could dramatically accelerate that transition.

Given the substantial amount of consumption data collected by BYD from its electric vehicle fleet and the corresponding biogas-derived electricity delivered to the power grids used by BYD electric vehicles, BYD requests that EPA move quickly to implement a hybrid structure that allows BYD to participate directly in the program. BYD collects charging data via telematics from most of the electric trucks and buses that we have sold to date, and that data, paired with production data from biogas facilities, could be used to generate RINs.

Furthermore, BYD buses and trucks only charge at dedicated "workstations" that are not used by other vehicles. These workstations are developed and installed by BYD exclusively for our fleet operators, and so the data generated by our buses is only collected by i) BYD and ii) the fleet operator. BYD believes that it would be most efficient for BYD to manage participation in the RFS and simply pass on the value of the RINs to our customers.

And so, we believe a hybrid structure is the best option for the following reasons:

- As stated in the rule, "the principal constraint in the biogas to electricity to transportation fuel pathway is the use of electricity as transportation fuel." EPA should adopt the structure that comes closest to capturing the full amount of fossil fuel currently being displaced by renewable electricity in EVs. Since telematics can account for most charge events, manufacturers clearly have access to the most robust dataset. Combined with information from public

charging station providers – assuming an adequate solution to “double counted” data is adopted – a hybrid approach would account for substantially all charging by connected vehicles.

- BYD is best positioned to pass along RIN revenue to our customers by reducing the purchase price of EVs or through other research and development efforts. The alternatives -- like requiring that individual EV owners or fleet operators register as RIN generators -- are possible but not necessary and would likely limit participation. EPA recognizes that, since these new incentive programs could accelerate the adoption of electric vehicles, maximizing participation is a primary goal.
- A hybrid approach that allows both EV manufacturers and public charging station providers would create new direct incentives for both EV ownership and investment in infrastructure in tandem. BYD recognizes that programs that accelerate the addition of charging infrastructure also benefit the owners of electric cars and, by extension, manufacturers and industry stakeholders, et al.

But to reiterate: in the case of BYD electric buses and trucks, which only charge at private stations, there is no possibility for double counted data, so long as BYD manages the program for operators. In this unique case, the correct structure for implementation is clear, and EPA should move to adopt this approach quickly since it is exempt from the many issues raised in the Proposed REGS Rule.

BYD also supports a correction to the electricity-RIN equivalence value set by EPA. In the rule, EPA states that each renewable fuel should be assigned “an Equivalence Value that precisely accounts for the amount of petroleum in motor vehicle fuel that is reduced or replaced by that renewable fuel in comparison to ethanol.” However, the equivalence value for renewable electricity is clearly incorrect, because it does not account for the ability of renewable electricity to displace fossil fuels (see Appendix 1 for independent analysis).

At the current equivalence value, renewable electricity is at a significant disadvantage compared to biofuels used in internal combustion engines. Correcting the equivalence value is crucial for the electric pathway to have a meaningful impact on EV adoption and renewable electricity generation – EPA’s stated mission for the pathway.

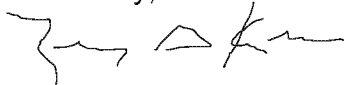
Finally, EPA seeks comment on the role of third party aggregators to address data insufficiencies that might otherwise exist in the pathway. BYD agrees a third party aggregator can play a very important role in addressing such insufficiencies. BYD also believes that a third party, like Bridge to Renewables, Benefit LLC (Bridge to Renewables), provides a conduit to participation in the RFS, lowering expenses and administrative hurdles that may otherwise be prohibitive for companies like ours. We therefore request that EPA allow the responsibilities of RIN generation and compliance

to sit with a third party, and make this option available to OEMs under the Vehicle Manufacturer Structure.

These comments are meant to summarize BYD's position on the key issues for which EPA has requested feedback. More detailed comments submitted by Bridge to Renewables are consistent with these summary comments, and BYD concurs with the comprehensive positions taken by BTR on other parts of the implementation of the renewable electricity pathway. BYD requests near-term implementation of a hybrid structure for collecting EV charging data. Combined with an appropriate equivalence value and the flexibility to use a third party for RIN generation, such implementation would the entire EV industry to benefit from a robust Renewable Electricity Pathway.

BYD thanks EPA for the opportunity to comment on this pathway and looks forward to participating in the program.

Sincerely,

A handwritten signature in black ink, appearing to read 'Zachary Kahn', written over a horizontal line.

Zachary Kahn
Director of Government Relations
BYD America

Appendix 1: ICCT Paper



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Suite 900
Washington DC 20005
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www.theicct.org

Memorandum on the equivalence value of electricity in the Renewable Fuel Standard

This memorandum explains why it would be appropriate for EPA to set the equivalence value of renewable electricity used for compliance with the Renewable Fuel Standard (RFS) at 1 Renewable Identification Number (RIN) per 5.24 kW-hour of renewable electricity that charges plug-in electric vehicles.

EPA counts biofuels differently towards compliance with the RFS depending on their energy content. For instance, one gallon of biodiesel contains more energy and can drive a given vehicle more miles than one gallon of ethanol, and so biodiesel receives more RINs per gallon than ethanol. One reason EPA gives for this differential treatment is that more energy dense biofuels displace more petroleum:

“Fossil fuels such as gasoline or diesel are only replaced or reduced to the degree that the energy they contain is replaced or reduced. We do not believe it would be appropriate to treat a renewable fuel with very low volumetric energy content as being equivalent to a renewable fuel with very high volumetric energy content, since the impact on motor vehicle fossil fuel use is very different for these two renewable fuels. The use of Equivalence Values based on volumetric energy content helps to achieve this goal.” (Renewable Fuel Standard 1 Final Rule, Section III.B.4.a)

Renewable electricity from biogas is currently credited in the RFS according to its energy content compared to ethanol: 1 RIN per 22.6 kW-hour. This conversion reflects the literal energy content in the electricity, but it does not reflect the amount of petroleum that is displaced. Electric vehicles have much more efficient drivetrains compared to internal combustion vehicles that consume gasoline and ethanol. While one gallon of ethanol can drive a typical new internal combustion car 16 miles, 22.6 kW-hour of electricity will drive the typical new electric car about 70 miles,¹ displacing 4.3 ethanol-equivalent gallons of gasoline.

If renewable electricity were to be credited according to the amount of petroleum it displaced, it would be awarded 1 RIN per 5.24 kW-hour. Crediting electricity on the basis of distance traveled rather than energy content would be consistent with the way renewable electricity is credited under other major low carbon fuel policies around the world, including California’s Low Carbon Fuel Standard,² the European Union’s Fuel Quality Directive,³ and British Columbia’s

¹ Based on 100 mpg gasoline equivalent fuel economy for battery electric and plug-in hybrid electric vehicles marketed in 2015. Information on fuel economy of new vehicles is available at <https://www.fueleconomy.gov/>

² California Air Resources Board. Final Regulation Order on Amendments to the Low Carbon Fuel Standard. November 26, 2012. Available at: <http://www.arb.ca.gov/fuels/lcfs/CleanFinalRegOrder112612.pdf>

³ COUNCIL DIRECTIVE (EU) 2015/652 of 20 April 2015 laying down calculation methods and reporting requirements pursuant to Directive 98/70/EC of the European Parliament and of the Council relating to the quality of petrol and diesel fuels. Official Journal of the European Union L 107/26. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015L0652&from=EN>

Renewable and Low Carbon Fuel Requirements Regulation.⁴ Accounting for the efficiency of electric vehicles in renewable fuel lifecycle analysis is also supported by members of the scientific community.⁵ ICCT, in its international research on fuel policy, considers the inclusion of all known lifecycle effects – including electric vehicle efficiency – for various fuels to be a critical best policy practice to fairly promote all transportation fuels on their relative merits.

Please contact Stephanie Searle at ICCT (stephanie@theicct.org) with any questions.

⁴ Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act: Renewable and Low Carbon Fuel Requirements Regulation. British Columbia regulation 394/2008. Available at: http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/394_2008

⁵ For example, see: Yang, C. (2013). Fuel electricity and plug-in electric vehicles in a low carbon fuel standard. Energy Policy (56): 51-62; and Yeh, Sonia, Daniel Sperling, M. Griffin, Madhu Khanna, Paul Leiby, Siwa Msangi, James Rhodes, and Jonathan Rubin. 2012. National Low Carbon Fuel Standard: Policy Design Recommendations. Institute of Transportation Studies, University of California, Davis, Research Report UCD-ITS-RR-12-10.



December 16, 2016

The Honorable Gina McCarthy
Administrator, Environmental Protection Agency
Air and Radiation Docket and Information Center
1200 Pennsylvania Avenue NW
Washington, DC 20460

Subject: **Docket ID** No. EPA-HQ- OAR-2016-0041; **RIN:** 2060-AS66

Dear Administrator McCarthy:

Enerdyne Power Systems (Enerdyne) thanks the Environmental Protection Agency (EPA) for the opportunity to comment on the Renewable and Enhanced Growth Support (REGS) Rule. The EPA has requested comment on the structure for generating RINs under the Renewable Electricity pathway. Enerdyne is a 25-year veteran of the landfill gas-to-energy industry and has been responsible for developing over 50 projects during that span. Enerdyne is a strong advocate for the program, which supports the industry by providing an additional incentive to develop new projects that would supply the fueling needs of the growing electric vehicle market.

Three parts of EPA's proposal are relevant to Enerdyne: the structure for collecting electricity consumption data; the role of third party aggregators in RIN generation; and the equivalence value assigned to renewable electricity used to power EVs. As discussed in our attached comments, Enerdyne supports a hybrid structure for tracking electricity consumption by EVs, which appears to be the most comprehensive way to capture all charge events and therefore maximize the opportunity for generators to use electricity production data to generate RINs. Enerdyne also requests the option of working with a third party aggregator to implement such a structure.

These comments are meant to summarize Enerdyne's position on the key issues for which EPA has requested feedback. More detailed comments submitted by Bridge to Renewables, Benefit LLC (BTR) are consistent with these summary comments, and Enerdyne concurs with the comprehensive positions taken by BTR on other parts of the implementation of the renewable electricity pathway.

Again, Enerdyne thanks EPA for the opportunity to comment on the implementation of the renewable electricity pathway and looks forward to participating in the program.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Morley". The signature is fluid and cursive, with a large, stylized "C" and "M".

Chris Morley
CFO, Enerdyne Power Systems



Enerdyne Comments to Proposed REGS Rule

1. The Pathway and a Hybrid Structure

EPA's stated goal is to implement a structure for generating e-RINs that maximizes the environmental impact of the renewable electricity pathway. To do so, EPA must move forward with the structure that would generate the most e-RINs and therefore create the most value to be passed on to the owners of electric vehicles, developers of EV infrastructure, and producers of renewable, biogas electricity. In Enerdyne's view, a hybrid approach that uses consumption data from EV manufacturers, manufacturers of public charging stations, and utilities that have deployed charging stations to capture consumption data would accomplish all of EPA's goals for the program, particularly if those participants are allowed to designate third party aggregators to generate RINs.

Such a structure would require a solution to "double counting" that is agreeable to the market participants, like the proposals made by Bridge to Renewables, Benefit LLC (BTR). A hybrid structure that solves double counting would allow for an equitable and comprehensive program that maximizes the benefit to the landfill gas and EV industries. EPA should therefore move forward with such a structure.

2. Third Party Aggregators

Enerdyne agrees with EPA that third parties could "serve an important role as aggregators of required data and agents or intermediaries for RIN generation," and has been working with BTR to demonstrate the viability of this structure. Enerdyne believes that a third party would provide a way for smaller IPPs to participate in the renewable electricity pathway, lowering commercial hurdles otherwise inherent to the program. EPA recognizes in its proposed REGS Rule, for example, that "a single vehicle manufacturer would likely need to rely on a sizable number of contracts with IPPs (independent power producer), given the small scale of many IPPs that generate electricity from biogas and the necessity for the IPPs to be able to supply electricity on to the electrical grid from which the manufacturer's EVs draw electricity." Without third party aggregators, Enerdyne believes it is unlikely that the owners of the electricity consumption data necessary to generate e-RINs (vehicle manufacturers in this example) would contract with smaller IPPs, thereby preventing participation by all but the largest power providers.

As such, a third party like BTR will not divert value created from the program away from the intended beneficiaries but in fact will ensure that RIN revenues end up with a diverse mix of small and large IPPs. EPA should allow for this flexibility in its implementation of the renewable electricity pathway.

3. Equivalence Value

Enerdyne believes that EPA should correct the equivalence value assigned to renewable electricity to account for its ability to displace fossil-based gasoline and diesel. Enerdyne believes the methodologies for determining that ability, as proposed by DOE, ICCT, BTR and others are sufficient, and that the equivalence value should be set at or above 4.0, or at or below 5.65 kWhs/ RIN, as is consistent with those methodologies.



Environmental Protection Agency
 Attn: Julia MacAllister
 2000 Traverwood Drive
 Ann Harbor, MI 48105.
 RE: Docket ID No. EPA-HQ-OAR-2015-0111

Thank you for the opportunity to comment on EPA's proposed Renewable Fuel Standard ("RFS") annual percentage standards for 2014, 2015, and 2016.¹

Biogas Researchers Inc., ("BR"), is a Virginia 501(c)(3) not-for-profit company involved in research and educational activities to increase the production and consumption of biogas. As described below, BR is particularly concerned that EPA did not include projected and likely RINs generated from the approved biogas to renewable electricity pathway when setting the proposed renewable volume obligations ("RVO") for cellulosic biofuel for 2014, 2015 and 2016. The inclusion of RINs from the biogas to renewable electricity pathway will have a significant positive impact on the effectiveness of the cellulosic biofuel components of the renewable fuel standard program ("RFS"). As described below, BR has submitted an RFS-related application to EPA, and Bridge To Renewables, Benefit LLC ("BTR"), a related company, intends to submit a separate RFS-related application to EPA. Approval of these applications will ensure that the potential impacts of the biogas to renewable electricity pathway are significant.

The purpose of these comments is threefold:

1. To highlight the fact that EPA's proposed cellulosic RVOs for 2014, 2015, and 2016 do not account for the biogas to renewable electricity pathway, quantify the renewable electricity RINs likely to be generated for those years, and identify the potential negative impacts of not including those RINs in the proposed RVOs;
2. To apprise EPA of the status of BTR's forthcoming application to register as a generator of cellulosic RINs under the biogas to renewable electricity pathway and comment on those parts of the proposed rule that are relevant to that application; and,
3. To inform EPA of BR's pending application to increase the equivalence value assigned to renewable electricity and comment on those parts of the proposed rule that are relevant to that application.

I. The proposed rule does not account for the approved renewable electricity RIN pathway when setting volume requirements for cellulosic biofuel for 2014, 2015 and 2016.

In a rulemaking completed in 2014, EPA created or reclassified a number of additional pathways by which cellulosic ethanol RINs (termed "D-3 RINs") may be generated.² As part of that rulemaking, EPA created a new "biogas to renewable electricity" pathway (which we term

¹ Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass-Based Diesel Volume for 2017, 80 Fed. Reg. 33100 (proposed June 10, 2015) (to be codified at 40 C.F.R. pt. 80) [hereinafter "NOPR," "Proposed Rule," or "Proposed 2014-2016 RVO Rule"].

² Regulation of Fuels and Fuel Additives: RFS Pathways II, and Technical Amendments to the RFS Standards and E15 Misfueling Mitigation Requirements, 79 Fed. Reg. 42128 (July 18, 2014) [hereinafter "Pathways II Rule"].

the “RE Pathway”), and reclassified the preexisting “biogas to CNG/LNG” pathway to be eligible to produce D-3 RINs.³

In the Proposed 2014-2016 RVO Rule, EPA proposed to utilize its waiver authority to set the cellulosic biofuel RVO below the statutorily prescribed levels for 2014, 2015, and 2016, because “the projected volume of cellulosic biofuel production in a given year is less than the statutory volume.”⁴ For 2015 and 2016, EPA relied not solely on historic RIN generation from existing facilities, but also on “information we collected regarding individual facilities that have produced *or have the potential to produce* qualifying volumes for consumption as transportation fuel”⁵ The following is an edited version of *Table IV-1* from the proposed rule, which shows EPA’s proposed volumetric requirements for cellulosic biofuel.

Reproduction of Table IV-1
Proposed cellulosic biofuel volume requirements

	2014	2015	2016
Cellulosic biofuel (million gallons)	33	106	206

*All values are ethanol-equivalent on an energy content basis.

A critical component of these projected volumes—and therefore of the proposed cellulosic RVOs—includes an accounting of the historic and projected use of biogas for CNG/LNG transportation fuel.⁶ EPA utilized a different methodology for calculating projected RIN generation from the biogas to CNG/LNG pathway than it did for calculating projected RIN generation from other cellulosic biofuel pathways.⁷

In the Proposed Rule, EPA states “We request comment on the projected volumes of cellulosic biofuel production for each of these years, as well as the methodology used to project these volumes.”⁸

Comment:

None of the cellulosic biofuel volumes proposed in Table IV-1 appears to include any projection of RINs that are likely to be produced using the approved RE Pathway over the 2014-2016 timeframe. While it is apparently true that there is not currently any registered producer of cellulosic RINs using the RE Pathway, EPA has *not* limited its projections of 2015 and 2016 RINs to only those producers that have been registered.⁹ In a memorandum from Dallas Burkholder to the docket (the “Burkholder Biogas Memorandum”), EPA developed a methodology that projected RIN generation from facilities that were in the process of registering and from those that had not yet registered. In order to apply a neutral methodology, EPA

³ Pathways II Rule, 79 Fed. Reg. at 42137-38.

⁴ NOPR, 80 Fed. Reg. at 33138.

⁵ *Id.* (emphasis added).

⁶ *Id.*

⁷ “Assessment of Cellulosic Biofuel Production from Biogas (2015–2016)”, memorandum from Dallas Burkholder to EPA Air Docket EPA–HQ–OAR–2015–0111 [hereinafter “Burkholder Biogas Memorandum”]; NOPR, 80 Fed. Reg. at 33142 n. 118 (explaining a difference in methodology and citing Burkholder Biogas Memorandum).

⁸ *Id.*

⁹ See Burkholder Biogas Memorandum at 5.

should develop similar methodologies to calculate projected cellulosic RINs that will be generated under the RE Pathway that it used to project cellulosic RINs that will be generated under the biogas to CNG/LNG pathway. That is, EPA should develop a RE Pathway equivalent of the Burkholder Biogas Memorandum (i.e. by collecting data on the magnitude of expected RIN generation from the RE Pathway).

EPA's approval of any registration application under the RE Pathway (such as, but not limited to, a forthcoming BTR registration application, described in further detail in Attachment 2) will significantly impact the production of cellulosic biofuel.

BR has estimated that once EPA approves such a registration, associated RIN generation will increase significantly for 2014, 2015 and 2016. These estimates are available in Attachment 1. In addition, details regarding how BR projected the expected level of cellulosic RIN generation from the RE Pathway are outlined in Attachment 1.

It is important to note that these projections are illustrative using BTR's proposed approach to RIN generation under the RE Pathway (described in more detail in Attachment 2). However, a similar magnitude of cellulosic RINs could be generated under another approved registration utilizing the RE Pathway. Nonetheless, as described below, BTR intends to submit its application for registration before EPA finalizes the 2014-2016 RVO Rule. To the extent that BTR has done so, EPA should include BTR's estimates for RIN generation under its pathway in an equivalent manner to how it considered *pending* registrants under the CNG/LNG pathway in the Burkholder Biogas Memorandum. BTR would be happy to work directly with EPA to further outline the expected level of RIN generation under the RE Pathway as additional information becomes available.

Oversupply of cellulosic RINs is likely to have a significant impact on all participants in the cellulosic biofuels market. Supply that significantly exceeds EPA projections will reduce the price of D-3 RINs, mitigating the economic impact of the RFS program on investment in new cellulosic biofuel infrastructure.

In addition, because of the nested nature of the RFS program, D-3 RINs may be used to satisfy the advanced biofuel RVO. To the extent there is an oversupply of D-3 RINs, the price—and financial benefit—of D-5 RINs may similarly be affected.

Together, this is likely to have a significant and negative impact on the economic prospects, financing, and potential for expansion of cellulosic biofuel producers, advanced biofuel producers, biogas electricity generation, and electric vehicle ("EV") sales. An analysis by Professor James Stock of Harvard University effectively captures the likely negative impacts that may occur if EPA finalizes a cellulosic RVO consistent with the NOPR and then approves a registration that significantly expands available D-3 RINs beyond the level projected within the timeframe of that RVO:

"...if the [RVO] estimate is too low, D3 RINs will have been produced in excess driving their price to the D5 floor, and potentially depressing the D5 price as well if the marginal advanced RIN is a cellulosic RIN. The resulting swings in the D3

RIN price would create uncertainty and impede investment and planning for all market participants.”¹⁰

EPA has not considered the extent to which increased renewable electricity production and increased EV sales will significantly increase the use of renewable fuels. The renewable electricity pathway—which has already been approved by EPA—can capitalize on existing vehicles (EVs) with highly efficient motors that utilize a new renewable fuel: renewable electricity. Moreover, EV battery improvements, reduced manufacturing costs, expansion of access to charging stations, and the actions described in the government’s Biogas Opportunities Roadmap will all contribute to the increased production and consumption of renewable electricity within the timeframe of the 2014-2016 RVO Rule. In order to put D-3 RIN volumes “on a path of steady, ambitious growth,”¹¹ we request that EPA take the level of expected D-3 RIN generation from the RE Pathway into consideration when setting the cellulosic RVOs for 2014, 2015, and 2016.

II. BTR has begun the process of registering with EPA as a RIN generator under the RE Pathway.

BTR is proposing an RFS registration arrangement under the RE pathway to generate D-3 cellulosic RINs. This arrangement, if approved, will result in commercial-scale volumes of renewable electricity and support the congressional vision of robust cellulosic biofuel growth in the coming years of the RFS program.

BTR briefed EPA officials in Ann Arbor and Washington, D.C. on the proposed arrangement on March 23, 2015, and has since commenced the registration process. A copy of the briefing presentation and a program summary are included as Attachment 2.

BTR’s application to register the proposed RIN generating arrangement is particularly relevant to a number of aspects of the proposed rule.

A. Methodology for Setting 2014 & Partial 2015 RVO

Excerpts from proposed rule:

- a. *As calendar year 2014 has passed, we believe it is appropriate to set the applicable volume requirements at the **volumes that were actually supplied in 2014**.*¹²
- b. *Because 2014 has passed, the final rule cannot alter the **volumes of renewable fuel produced and consumed during 2014**. We believe it is appropriate, therefore, that the standards we establish for 2014 reflect the actual supply in 2014. Similarly, this rulemaking can only have a partial impact on the volumes of renewable fuel produced and consumed in 2015.*¹³

¹⁰ James H. Stock, Administering the Cellulosic Requirements under the Renewable Fuel Standard with Increasing & Uncertain Supply (May 7, 2015), http://scholar.harvard.edu/files/stock/files/administering_the_cellulosic.pdf

¹¹ NOPR, 80 Fed. Reg. at 33102.

¹² *Id.* at 33107.

¹³ *Id.* at 33105.

Comment:

The excerpts above make clear that EPA appropriately is considering actual volumes of renewable fuel produced in 2014 when setting the 2014 RVO. Since August 18, 2014, the effective date of the July 18, 2014 rule that created the RE Pathway, hundreds of landfills, waste water treatment facilities and agricultural digesters across the country have been producing significant amounts of electricity with biogas. At the same time, large numbers of EVs across the country have been drawing electricity from the interconnected electric grid on a daily basis. These activities constitute de facto “*volumes of renewable fuel produced and consumed during 2014.*”. Moreover, a number of approaches to the RE Pathway can utilize reliable data on biogas electricity production and electric vehicle charging to accurately yet retroactively account for those volumes of renewable fuel produced and consumed during 2014 (and the first months of 2015). For that reason, in its forthcoming registration application, BTR is requesting authorization to generate RINs retroactively to August 18, 2014. As such EPA should include the expected increase in 2014 RINs in its final 2014-2016 RVO rule.

Excerpts from proposed rule:

- c. *If a company has not yet begun producing RIN-generating volumes of cellulosic biofuel, our experience suggests that they may experience challenges in progressing toward commercial-scale production that would result in the delay of the production of cellulosic biofuel.*¹⁴
- d. *In situations where a company has not produced any cellulosic biofuel in the previous 12 months, we believe it is appropriate to use zero as the low end of the projected production range given the many uncertainties and challenges associated with the commissioning and start-up of a new cellulosic biofuel production facility we have observed to date.*¹⁵
- e. *For the final rule we intend to update this information and use the data available for the most recent 12 months at the time of the final rule.*¹⁶

Comment:

Excerpts (c)-(e) above emphasize the important differences between BTR’s approach—and, in fact, any RE Pathway approach—and EPA’s historic experience and legitimate concern with projecting RIN generation from liquid cellulosic fuel pathways. BTR’s approach does not rely on conducting R&D, perfecting chemistry, obtaining financing, or constructing new infrastructure. Instead, it capitalizes on activity that is already occurring with respect to biogas electricity production and electric vehicle sales and charging. While these are likely to expand significantly in the future—through installation of new electricity generation equipment at landfills, dairy farms, wastewater treatment plants, etc., new EV charging facilities, and sales of additional electric vehicles—the RE Pathway is constructed to also capture the fossil fuel displacement of *existing* renewable electricity generation and consumption. As such, once EPA approves BTR’s registration, RIN generation can commence immediately based on *already known* levels of

¹⁴ *Id.* at 33141.

¹⁵ *Id.* at 33142.

¹⁶ *Id.* at 33141 n.116.

renewable fuel production. In fact, the nature of this approach, including the reliable and credible data, further supports BTR's request to generate RINs retroactively.

B. Relationship Between Unaccounted-For RE Pathway and Quantified Biogas to CNG/LNG Pathway

The RIN generating arrangement proposed by BTR is different than arrangements that EPA may have researched or that are otherwise familiar to EPA. Those arrangements appear to involve only the generation of liquid fuel RINs or CNG/LNG RINs, as opposed to renewable electricity RINs. BTR's proposed arrangement, if approved, would enable the generation of D-3 cellulosic biofuel renewable electricity RINs retroactively to August 18, 2014, and for the duration of the RFS program.

Nonetheless, there are important similarities between the generation of RINs with renewable CNG/LNG, and the proposed generation of RINs with renewable electricity:

- Similar to the approved and quantified biogas to CNG/ LNG pathway, for the RE Pathway, the renewable fuel (electricity produced with biogas) has been produced for years. Currently over 2,004 MW of installed grid-connected capacity for electricity generation is available at landfills alone. Similarly, the consumption of that fuel (by EVs drawing on electricity from an electric grid that is physically connected to the biogas facilities producing that electricity) has occurred for years.
- Similar to renewable CNG and LNG, approval of the proposed arrangement will lead to a near-term and significant increase in *quantifiable* cellulosic biofuel consumption and D-3 RIN generation.

BTR is currently in discussions with the necessary participants to establish the proposed arrangement, submit the registration application and become registered with EPA as an approved renewable fuel producer and electric RIN generator. We expect BTR to submit that application before EPA issues its final 2014-2016 RVO rule. In the meantime, BTR would welcome an opportunity to provide any additional information that may be needed.

III. BR has filed an application to increase the equivalence value assigned to renewable electricity.

On July 9, 2015, BR filed an application to increase the equivalence value assigned to renewable electricity. This application and a related document titled "Energy-Based Equivalence Value Inappropriate for RE" is attached as Attachment 3.

The following excerpts from the proposed rule are relevant to BR's application to increase the equivalency value for renewable electricity. The excerpts are followed by our comments.

Excerpt from proposed rule:

In addition, because more ethanol gallons must be consumed to go the same distance as gasoline and more biomass-based diesel must be consumed to go the same distance as petroleum diesel due to each of the biofuels' lesser energy content, we consider the

*costs of ethanol and biomass-based diesel on an energy equivalent basis to their petroleum replacements (i.e., per energy equivalent gallon (EEG)).*¹⁷

Comments:

In the excerpt above, EPA considered the cost of ethanol based on its energy content because more than a gallon of ethanol must be consumed to go the same distance as a gallon of gasoline. Although a gallon of ethanol and a gallon-equivalent of renewable electricity have the same energy content (measured in Btu or kWh), EPA recognizes that electric drivetrain vehicles travel substantially farther¹⁸ on that amount of energy than do internal combustion engines.

EPA also determined the overall annual cost of ethanol by basing the volume of petroleum that ethanol displaces on the energy content of ethanol relative to that of gasoline. Given that a gallon of ethanol and a gallon equivalent of renewable electricity have the same energy content, EPA could not similarly determine the overall annual cost of renewable electricity, because a gallon-equivalent of renewable electricity displaces 4.3 times as much gasoline as a gallon of ethanol.

The pending equivalence value application argues that, for the same reasons as those identified above, EPA cannot accurately determine the equivalence value of renewable electricity based on its energy content.

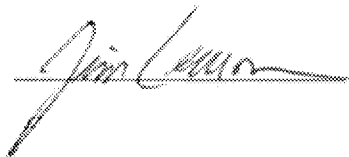
BR's equivalence value application has significant potential impacts on this proceeding. To the extent that EPA agrees with BR and modifies the equivalence value of electricity consumed by electric vehicles when assigning RINs under the RE Pathway, the oversupply of cellulosic RINs as compared to the proposed RVO will be even more significant.

Specifically, in Attachment 1, BR provides an estimate of the projected supply of D-3 RINs from the RE Pathway after properly accounting for an adjusted equivalence value.

Final Comment:

Thank you again for this opportunity to comment on the proposed rule. We firmly believe approval of the pathway registration application and the request to increase the RE Pathway equivalence value described above will significantly impact the generation of cellulosic biofuel RINs and benefit many aspects of the biogas and EV industries. We welcome continued engagement with EPA on these matters at any time and are happy to provide any additional information that may be needed. We also anticipate supplementing these comments once we submit our registration application and prior to the end of the comment period.

Sincerely,



¹⁷ *Id.* at 33131.

¹⁸ Pathways II Rule, 79 Fed. Reg. at 42142.

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(Note: Jim Lemon is also President of Bridge To Renewables, Benefit LLC)

Attachments

- **Attachment 1** – Estimate of RE Pathway RIN Projection and Associated Methodology
- **Attachment 2** – Summary of BTR Approach to RE Pathway
- **Attachment 3** – BR Letter Requesting Revision to Equivalence Value for RE Pathway

Attachments Withheld from Public Docket Submission as Confidential Business Information